

IN THE SPECIFICATION

At page 4, please replace paragraph [0013] with the following amended paragraph:

[0013] In operation, inlet air, represented by arrow 30, enters fan assembly 14, wherein the air is compressed and is discharged downstream, represented by arrow 31, at an increased pressure and temperature towards core engine 13 and more specifically, towards high-pressure compressor 16. In one embodiment, engine 11 includes a bypass duct (not shown) such that a portion of air 31 discharged from fan assembly 14 is also channeled into the bypass duct rather than entering core engine ~~14~~ 13.

At page 5, please replace paragraph [0016] with the following amended paragraph:

[0016] Auxiliary ducting (not shown) couples auxiliary power engine 12 to engine 11 to enable a portion of inlet air 31 channeled towards core engine 13 to be directed to auxiliary power engine 12. More specifically, auxiliary airflow, represented by arrow 52 is extracted from core engine 13 at a location upstream from core engine turbine 18. In the exemplary embodiment, auxiliary airflow 52 is bled from high-pressure compressor 16 and is routed towards auxiliary engine compressor 42. In an alternative embodiment, auxiliary power engine 12 is coupled in flow communication to a pair of engines 11 and receives high pressure auxiliary airflow 54 from each engine 11. In another alternative embodiment, a pair of auxiliary power engines 12 are coupled in flow communication to a single engine 11 and both receive high pressure auxiliary airflow 54 from engine 11. More specifically, in the exemplary embodiment, compressor 16 is a multi-staged compressor and ~~air~~ auxiliary airflow 52 may be extracted at any compressor stage based on pressure, temperature, and flow requirements of auxiliary engine 12. In another embodiment, ~~air~~ auxiliary airflow 52 is extracted downstream from compressor 16. In a further alternative embodiment, ~~air~~ auxiliary airflow 52 is extracted upstream from compressor 16. In one embodiment, approximately up to 10%, or more, of air flowing into compressor 16 is extracted for use by auxiliary engine 12. In a further embodiment, ~~air~~ auxiliary airflow 52 is extracted from any of, but is not limited to being extracted from, a booster interstage, a booster discharge, a fan interstage, a fan discharge, a compressor inlet, a compressor interstage, or a compressor discharge bleed port. In another embodiment, approximately up to 10% or more, of air flowing into fan assembly 14 is extracted for used by auxiliary engine 12.

At page 6, please replace paragraph [0018] with the following amended paragraph:

[0018] ~~Auxiliary~~ High pressure auxiliary airflow 54 directed towards auxiliary engine 12 is at a higher pressure and temperature than airflow 30 entering gas turbine engine assembly 10. Moreover, because the high pressure auxiliary airflow ~~30~~ 54 is at an increased pressure and temperature than that entering gas turbine engine assembly 10, a density of high pressure auxiliary airflow 54 is substantially similar to the density of airflow that enters auxiliary engine 12 at lower altitudes. Accordingly, because the power output of auxiliary engine 12 is proportional to the density of the inlet air, during operation of core engine ~~11~~ 13, auxiliary engine 12 is operable at higher altitudes with substantially the same operating and performance characteristics that are available at lower altitudes by auxiliary engine 12. For example, when used with the F110/F118 family of engines, auxiliary engine 12 produces approximately the same horsepower and operating characteristics at an altitude of 30-40,000 feet, as would be obtainable if auxiliary engine 12 was operating at sea level independently. Accordingly, at mission altitude, a relatively small amount of high-pressure air taken from core engine ~~11~~ 13 will enable auxiliary power engine 12 to output power levels similar to those similar from auxiliary power engine 12 at sea level operation.

At page 6, please replace paragraph [0019] with the following amended paragraph:

[0019] In the exemplary embodiment, auxiliary airflow 52 is channeled through an intercooler 60 prior to being supplied to auxiliary engine compressor 42. Intercooler 60 has two airflows (not shown) in thermal communication with each other and is designed to exchange a substantial amount of energy as heat, with minimum pressure losses. In the exemplary embodiment, auxiliary airflow 52 is the heat source and a second airflow is used as a heat sink. In one embodiment, the second airflow is fan discharge airflow. In another embodiment, the second airflow is ambient airflow routed through an engine nacelle and passing through intercooler 60 prior to being discharged overboard. More specifically, the operating temperature of auxiliary airflow ~~54~~ 52 is facilitated to be reduced within intercooler 60 as the transfer of heat increases the temperature of the other airflow channeled through intercooler 60. In an alternative embodiment, turbine engine assembly 10 does not include intercooler 60.

At page 7, please replace paragraph [0020] with the following amended paragraph:

[0020] Intercooler 60 facilitates increasing an amount of power per pound of bleed ~~air~~ high pressure auxiliary airflow 54 supplied to auxiliary power engine 12 without increasing flow rates or changing existing turbine hardware. A control system 62 is coupled to a generator control system (not shown) and facilitates regulating the operating speed of auxiliary power engine 12. In one embodiment, control system 62 throttles ~~inlet air~~ auxiliary airflow 52 supplied to auxiliary power engine 12 by control of a variable flow area throttle valve 61 and/or controls engine backpressure by control of a variable flow area exit nozzle 63 or a variable area bypass injector 82 to facilitate controlling the operation of auxiliary power engine 12.

At page 7, please replace paragraph [0022] with the following amended paragraph:

[0022] Accordingly, when operated, auxiliary power engine 12 facilitates providing increased shaft power production for use within the aircraft. More specifically, because auxiliary power engine 12 is selectively operable for shaft power production, auxiliary power engine 12 may be used only when needed, thus facilitating fuel conservation for the aircraft. In addition, the design of gas turbine assembly 10 enables auxiliary power engine 12 to be operated independently of propelling engine 11, such that an operating speed auxiliary power engine 12 is independent of an operating speed of core engine ~~11~~ 13. As such, auxiliary power engine 12 may operated during non-operational periods of core engine ~~11~~ 13, and moreover, may be used to provide power necessary to start operation of engine 11.

At page 8, please replace paragraph [0023] with the following amended paragraph:

[0023] Operation of auxiliary power engine 12 facilitates improving surge margin of engine 11 by bleeding auxiliary airflow 52 as needed, such that altitude, installation, or distortion effects may be overcome. Moreover, by removing high pressure extraction, auxiliary power engine 12 also facilitates improving an operating performance of core engine ~~11~~ 13 while generating significant power. Additionally the hydro mechanical or digital controls of propelling engine 11 and auxiliary power engine 12 are arranged to mutually exchange operational status and performance parameter values (pressure, temperature, RPM, etc) from one to the other.